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Response under 37 C.F.R. 1.116
Expedited Procedure Requested
Examining Group. 1742

Attorney Docket No. P21086

In re application of : Markus SPEIDEL et al.

Serial No. : 09/880,068

Group Art Unit : 1742

Filed : June 14, 2001

Examiner : McGuthry-Banks

For : NICKEL-BASED ALLOY FOR HIGH-TEMPERATURE TECHNOLOGY

THE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Sir:

Transmitted herewith is a Reply under 37 C.F.R. 1.116 to Final Office Action Mailed November 14, 2002 in the above-captioned application.

☐ Small Entity Status of this application under 37 C.F.R. 1.9 and 1.27 has been established by a previously filed statement.

☐ A verified statement to establish small entity status under 37 C.F.R. 1.9 and 1.27 is enclosed.

☐ A Request for Extension of Time.

☒ No Additional Fee.

The fee has been calculated as shown below:

Claims After Amendment	No. Claims Previously Paid For	Present Extra	Small Entity		Other Than A Small Entity	
			Rate	Fee	Rate	Fee
Total Claims: 30	*30	0	x 9=	\$	x 18=	\$0.00
Indep. Claims: 2	**3	0	x 42=	\$	x 84=	\$0.00
Multiple Dependent Claims Presented			+140=	\$	+280=	\$0.00
Extension Fees for Month				\$		\$0.00
Total:				\$	Total:	\$0.00

*If less than 20, write 20

**If less than 3, write 3

☐ Please charge my Deposit Account No. 19-0089 in the amount of \$_____.

☒ A Check in the amount of \$_____ to cover the filing/extension fee is included.

☒ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 19-0089.

☒ Any additional filing fees required under 37 C.F.R. 1.16.

☒ Any patent application processing fees under 37 C.F.R. 1.17, including any required extension of times fees in any concurrent or future reply requiring a petition for extension of time for its timely submission (37 CFR 1.136)(a)(3)

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P21086.A07

Appln. No. : 09/880,068

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Markus SPEIDEL et al.

Group Art Unit : 1742

Appln. No. : 09/880,068

Examiner : McGuthry-Banks

Filed : June 14, 2001

For : NICKEL-BASED ALLOY FOR HIGH-TEMPERATURE TECHNOLOGY

#14
03/13/03

**REPLY UNDER 37 C.F.R. 1.116
TO FINAL OFFICE ACTION MAILED NOVEMBER 14, 2002**

Commissioner of Patents and Trademarks
Washington, DC 20231

Sir:

This is in response to the Final Office Action mailed November 14, 2002, which sets a three month shortened statutory period for response until February 14, 2003.

Applicants note that this response is being filed prior to the expiration of the three month shortened statutory period for response, whereby an extension of time should not be necessary to maintain the pendency of the application. However, if any extensions of time are required to maintain the pendency of this application, including any extension of time for entry of an Examiner's Amendment, this is an express request for any required extension of time, and authorization to charge any required fee to Deposit Account No. 19-0089.

Entry of the instant amendment, with reconsideration and allowance of the application are respectfully requested.

P21086.A07



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REMARKS

Appln. No. : 09/880,068

Upon entry of the instant reply, claims 8-38 will remain pending. Claims 8 and 33 are independent claims.

Reconsideration and allowance of the application are respectfully requested.

Discussion Of Personal Interview

Applicants express appreciation for the courtesies extended by the Examiner during a January 9, 2003 personal interview with Applicants' attorney Arnold Turk.

During the interview, Applicants' attorney provided a detailed discussion of Applicants' disclosed and claimed invention based upon the originally filed application and the currently pending claims. Moreover, the Final Office Action was discussed, and Applicants' attorney presented arguments concerning the basis of the rejection and the response to Applicants' arguments set forth in the Final Office Action. In particular, it was argued that the references utilized in the rejections of record do not disclose Applicants' invention with sufficient specificity. Moreover, it was argued that the anticipation was improper when the obviousness rejections indicate that the references only disclose the invention substantially as claimed. Still further, it was argued that the obviousness rejections are improper in that they do not contain a proper obviousness analysis of the claims. Applicants' attorney indicated that a response will be filed resubmitting arguments, including the arguments made and emphasized at the interview. Accordingly, remarks presented at the interview are included in the arguments below.

Response to Formal Matters

Applicants express appreciation for the return of the initialed Form PTO-1449, whereby the Examiner's consideration of Applicants' Supplemental Information Disclosure Statement filed October 31, 2002 is of record.

Response To Rejections Based Upon Prior Art

The following rejections are set forth in the Office Action:

(A) Claims 8-20, 23, 27, 28 and 30 are rejected under 35 U.S.C. § 102(b) as being anticipated by KUDO et al. (hereinafter "KUDO"), JP 57-210941;

(B) Claims 8-12, 15, 16, 20 and 21 are rejected under 35 U.S.C. § 102(b) as being anticipated by KATO, JP 56-084445;

(C) Claims 33 and 34 are rejected under 35 U.S.C. § 102(b) as being anticipated by KUDO, JP 57-210941;

(D) Claims 33 and 34 are rejected under 35 U.S.C. § 102(b) as being anticipated by KATO, JP 56-084445;

(E) Claims 8-20, 23, 27, 28 and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over KUDO, JP 57-210941;

(F) Claims 33 and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over KUDO, JP 57-210941;

(G) Claims 8-13, 15, 16, 20 and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over KATO, JP 56-084445;

(H) Claims 33 and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over KATO, JP 56-084445; and

(I) Claims 21, 22, 24-26, 29, 31 and 32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over KUDO, JP 57-210941, and further in view of SMITH et al. (hereinafter "SMITH"), U.S. Patent No. 6,287,398.

(J) Claims 35-38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over KUDO, JP 57-210941, as applied to claims 33 and 34, and further in view of SMITH, U.S. Patent No. 6,287,398.

Initially, prior to discussing the merits of the anticipation rejections based upon KUDO and KATO, Applicants respectfully submit that the obviousness rejections themselves support the fact the Applicants' disclosed and claimed invention is not anticipated by either of KUDO and KATO. In particular, the obviousness rejections that are based upon KUDO state for claims that are rejected in the anticipation rejections, including independent claim 8, that:

Kudo discloses the invention substantially as claimed. However, Kudo discloses broader or overlapping ranges for N, Cr, the sum of W, Mo, and Ti, Al, Si, P, S, and Ni in Claim 8.

Similarly, the obviousness rejections that are based upon KATO state for claims that are rejected in the anticipation rejections, including independent claim 8, that:

Kato discloses the invention substantially as claimed. However, Kudo discloses broader or overlapping ranges for N, Cr, the sum of W, Mo, V and Nb, Al, Si, and Ni in Claim 8.

Accordingly, the obviousness rejections in their assertion that it is necessary to modify the ranges of either of KATO or KUDO to arrive at Applicants' invention support Applicants' position that neither of KUDO or KATO anticipates their disclosed and claimed invention.

Still further, with regard to the anticipation rejections, Applicants once again note that KUDO and KATO broadly disclose a number of ranges that broadly include ranges as recited in Applicants' claims. However, the examples disclosed in these documents do not include all the elements of Applicants' claims in the amounts recited in Applicants' claims. A review of KUDO and KATO reveals that Applicants' invention is not anticipated nor rendered obvious by these documents, because the subject matter claimed in the present application is not disclosed with sufficient specificity therein as the creep-proof and corrosion-resistant nickel-based alloy of the present invention cannot be "at once envisaged" from the disclosures of either KUDO or KATO. In this regard, the Examiner's attention is directed to MPEP 2131.03 wherein it is noted that anticipation, in a situation such as in the present case wherein ranges are disclosed, is found when the prior art discloses at least one example that is within the claimed range. In the instant situation, the rejection merely points to ranges and does not establish wherein the creep-proof and corrosion-resistant nickel-based alloy of the present invention is disclosed with sufficient specificity in either KUDO or KATO so as to constitute an anticipation. In fact, as noted above, the obviousness rejections are, in fact, supporting the position that KUDO and KATO do not sufficient envisage Applicants' invention so as to constitute an anticipation thereof.

With respect to the above, the Examiner's attention is once again directed to the tables presented in KUDO, at 57-210941(6) labeled page 210, and KATO, at 56-84445(3) labeled page

243, which do not appear to include examples within Applicants' invention. As discussed with the Examiner during the above-noted interview, none of the examples disclosed in these Tables includes a combination of ingredients that are as recited in Applicants' claims.

The anticipation rejections also make a reference to inherency; however, the Examiner is reminded that in order for inherency to be present the Examiner has the burden of showing that the result indicated by the Examiner is the necessary result, and not merely a possible result. In re Oelrich, 212 U.S.P.Q. 323 (CCPA 1981); Ex parte Keith et al., 154 U.S.P.Q. 320 (POBA 1966). The fact that a prior art product may inherently have the characteristics of the claimed product is not sufficient. Ex parte Skinner, 2 U.S.P.Q.2d 1788 (BPAI 1986).

As the Board of Patent Appeals and Interferences states in Ex parte Levy, 17 U.S.P.Q.2d 1461, 1463:

However, the initial burden of establishing a prima facie basis to deny patentability to a claimed invention rests upon the examiner. In re Piasecki, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984). In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986); W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981); In re Wilding, 535 F.2d 631, 190 USPQ 59 (CCPA 1976); Hansgirk v. Kemmer, 102 F.2d 212, 40 USPQ 665 (CCPA 1939). in order for inherency to be present it must be a necessary result, and not merely a possible results. Ex parte Keith and Turnquest, 154 U.S.P.Q. 320 (B.O.A. 1966).

Therefore, **if the anticipation rejections are maintained, it is respectfully requested that the rejections point out where the creep-proof and corrosion-resistant nickel-based alloy of the present invention is disclosed with sufficient specificity in either KUDO or KATO so as to constitute an anticipation.** As discussed with the Examiner the above-noted

interview, the Patent and Trademark Office must set forth a sufficient basis for the anticipation rejection. Therefore, if the anticipation rejections are maintained, the Examiner is respectfully requested to specifically indicate where KUDO and KATO disclose Applicants' disclosed and claimed invention so as to constitute an anticipation.

Regarding the obviousness rejections, attention is once again directed to MPEP 2144.05 wherein criteria for regarding optimization of ranges is presented. In the instant situation, Applicants' claimed invention provides a creep-proof and corrosion-resistant nickel-based alloy. In this regard, the Examiner's attention is once again directed, for example, to paragraph [0014] of Applicants' substitute specification wherein it is disclosed that the advantages achieved according to the invention are essentially based on the fact that, at temperatures of up to 1200 °C, intercrystalline creeping in the material is largely prevented due to stable deposits in the intercrystalline regions and an increased mixed crystal hardening is achieved. Additionally, it is disclosed that the adhesion of chromium spinel and such layers to the surface is increased, causing an improved high-temperature corrosion resistance of the components. Still further, the Examiner's attention is directed, for example, to Applicants' examples, such as illustrated in Tables 2 and 3. These tables clearly show that a deviation from a combination of alloy elements according to the invention in the given concentration ranges results in a deterioration of the mechanical properties of the alloys.

As can be seen, the instantly claimed invention is not rendered obvious over either KUDO, KATO and/or SMITH. In particular, it is noted that to establish a *prima facie* case of obviousness wherein ranges are claimed, the rejection must establish motivation for arriving at

the ranges claimed by Applicants. Moreover, the rejection must establish that the particular variables being modified are result effective variables. See In re Antonie, 195 USPQ 6 (CCPA 1977). In the instant situation, there is no teaching or suggestion in the prior art to arrive at the creep-proof and corrosion-resistant nickel-based alloy recited in Applicants' claims.

As previously noted, the case law cited in the rejection is noted, but does not address this issue. In Woodruff, the issue was that only one variable was slightly different, and that the intended purpose pertained to a new benefit for an old process. Wertheim appears to confirm that disclosure of an example within the claimed range is an anticipation. As discussed above, it does not appear that any of KUDO, KATO and/or SMITH teach or suggest the Applicants' claimed creep-proof and corrosion-resistant nickel-based alloy.

The obviousness rejections merely make reference to deficiencies in the primary references, but do not indicate how the alloys of the prior art are being modified and/or the motivation for making any modification. In this regard, KUDO is directed to an alloy for high strength oil well pipe with superior stress corrosion cracking resistance by adding certain components in specified ratios; KATO is directed to an inexpensive heat-resistant alloy which is excellent in corrosion resistance and strength at high temperatures wherein a part of Ni of an Ni-based alloy is replaced with Mn and appropriate amounts of elements capable of increasing strength at high temperatures and C and N producible with the dissolution of the air; and SMITH is directed to high strength alloy tailored for high temperature mixed-oxidant environments.

For example, it is noted with respect to claim 31 that this claim relates to a nickel-based alloy according to claim 8 with manganese (Mn) up to 0.60% by weight, and boron (B) up to

0.01 % by weight. In contrast, a boron-free alloy is apparently disclosed in KUDO, and KATO relates to nickel-based alloys featuring 5-15% by weight manganese. It would not have been obvious to arrive at a nickel-based alloy according to claim 8 with the manganese and boron contents listed in claim 31 to achieve an improved creeping strength.

Moreover, SMITH discloses a nickel alloy which, at least for its disclosure of an iron content of at least 18% by weight, an aluminum content of at least 3% by weight and a nitrogen content of no more than 0.1% by weight, is far from the alloy composition according to the invention. Furthermore, such an alloy features only chromium carbide deposits, i.e., no nitride deposits. Boron is used in such an alloy to improve the hot forming property and as a deoxidant. Applicants respectfully submit that it cannot be concluded from this that a significantly improved creeping strength or a stabilization results, as indicated according to the present invention, with the general teaching of KUDO with respect to boron as an alloying element.

Moreover, as discussed above, the manipulation of ranges in the instant situation requires the manipulation of a number of broad ranges. There is absolutely no direction in any of the references utilized in the rejections to arrive at Applicants' invention. Moreover, as noted above, this is no indication in the rejections how either of KUDO or KATO is being modified to arrive at Applicants' invention. Certainly, an obviousness rejection must point to the disclosure in the prior art that is being modified, indicate what modification is being made, and indicate where the prior art provides the motivation for making the asserted modification. In the present situation, all that the rejection points to is the citation of two cases, and these cases have been distinguished in Applicants' arguments.

The only response to Applicants' arguments in the Final Office Action regarding the obviousness rejection is basically that. "there is nothing in Kudo or Kato that would prevent one from obtaining the claimed composition." Certainly, this is not the standard for obviousness. The question is whether there is motivation to modify the prior art to arrive at Applicants' invention when the prior art discloses such a large number of ranges and examples. There must be at least some teaching or suggestion in the prior art as to which of the many ranges should be modified, there must be some teaching that the ranges should be varied in a certain manner, there must be some indication of some desired result that is being sought so as to vary the ranges, and there must be some motivation for picking certain values in combination with other values to arrive at Applicants' invention, especially when the ranges are large in number and broad.

Still further, from the above, Applicants respectfully submit that a prima facie case of obviousness cannot be established based upon the prior art utilized in the rejections. However, even if a prima facie case of obviousness could be established in this case, the instantly claimed invention yields unexpected results sufficient to rebut a prima facie case of obviousness. In this regard, In re Soni, 34 U.S.P.Q.2d 1684, 1687-1688 (Fed. Cir. 1995), held that a showing of substantially improved results for the invention, and a statement that results were unexpected suffices to establish unexpected results absent evidence to the contrary. Id. at 1687-88. In the instant case, the superior characteristics of the claimed invention are disclosed throughout the specification, and indicated in the Examples.

Moreover, Applicants note that claims 33-38 are directed to an embodiment wherein the creep-proof and corrosion-resistant nickel-based alloy consists essentially of the recited materials. However, the rejections of record do not address this claimed subject matter.

Accordingly, the rejections of record should be withdrawn as improper, and all of the claims should be indicated as allowable over the prior art.

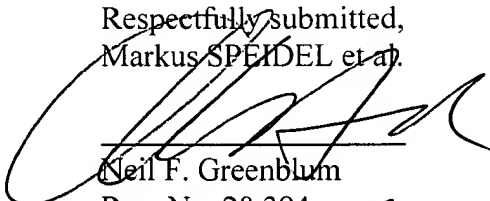
CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejection of record, and allow all the pending claims.

Allowance of the application is requested, with an early mailing of the Notices of Allowance and Allowability.

If the Examiner has any questions or wish to further discuss this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,
Markus SPEIDEL et al.


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February 6, 2003
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